UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,078	12/26/2001	Yoshiaki Katayama	217150US2PCT	8043

22850 7590 05/04/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
TO, JENNIFER N	

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/019,078	KATAYAMA, YOSHIAKI	
	Examiner	Art Unit	
	Jennifer N. To	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/26/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-14 are presented for examination.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise.

3. It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.

Claim Objections

4. As per claim 1, the inconsistent or misuse of punctuation makes it very difficult to determine exactly which units are connected to which units and which units perform which functions (i.e. first limitation followed by (;), second limitation followed by (;), but the third limitation followed by (,) which is not consistent with the first and second). Appropriate correction is required. Also applicant advised to check and correct the rest of claims (2-14) for the same matter if exists.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter in which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The claim language in the following claims is not clearly understood:

i. as per claim 1, lines 5-6, it is not clearly understood what running a program under it control (i.e. resources accessed by said CPU or CPU). Lines 29-38, it is uncertain whether the resource acquisition management function checking for the availability of the resources before the request for acquisition of any of the resources from the subtask distributed or after the request has been distributed. Line 35, it is not clearly understood what "outputs' a request for acquisition of the requested resource to the exclusive function.

ii. as per claim 3, the term "one of" should be referring with "or" not "and" as presenting in the claim.

iii. as per claims 9-13, they are having the same deficiency as claim 3. Appropriate correction is required.

iv. as per claim 14, it is having the same deficiency as claim 1. Appropriate correction is required.

b. Lacking an essential functionality:

i. as per claim 4, lines 3-7, there is a gap between essential functionality (i.e. lacking a step between table showing acquisition and released status of virtual resources to the resources previous claimed). This can be corrected by stating the resources correspond to the virtual resources in the table (i.e. see claim 10 for example).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (U.S. Patent No. 6148325), in view of Hammersley (U.S. Patent No. 5392433).

9. As per claim 1, Schmidt teaches the invention substantially as claim including a computer system (fig. 1, item 10) comprising:

a central processing unit (fig. 1, item 12);

resources accessed by said central processing unit running a program under its control (fig. 1, item 14);

storage means storing a main operating system program, application programs and a sub-operating system program (figs. 1&2; col. 2, lines 64-65; col. 3, lines 24-26);

the main operating system program being executed by said central processing unit to provide a main task execution function that generates a plurality of main tasks (figs. 1&2);

the main operating system program also providing an exclusive control function effecting (abstract, lines 6-8; col. 3, lines 20-25; col. 4, lines 42-47), when there is a request from the main task for acquisition of any of said resources, exclusive control on the use of said resources, by allocating said resources to the main tasks in the order of requests (col. 4, lines 48-53); and

the sub-operating system program being executed as one of the main tasks under the control of the main operating system program to provide a sub-task executing function that generates a plurality of sub-tasks based on said application programs (col. 3, lines 38-44).

Schmidt did not specifically teach:

central processing unit to sequentially run the plurality of main tasks;

central processing unit to sequentially run the plurality of sub-tasks;

the sub-operating system program provides a resource acquisition management function for checking, when there is a request for acquisition of any

of the resources from the sub-task, whether the requested resource is released by the exclusive control function and, when it is determined that the resource is released, outputs a request for acquisition of the requested resource to the exclusive control function, and wherein the sub-task executing function sequentially executes sub-tasks other than the requesting sub-task.

10. However, Hammersley teaches:

central processing unit to sequentially run the plurality of main tasks (abstract, lines 4-6);

central processing unit to sequentially run the plurality of sub-tasks (col. 4, lines 48-53);

the sub-operating system program provides a resource acquisition management function for checking (col. 7, lines 32-30), when there is a request for acquisition of any of the resources from the sub-task (col. 7, lines 27-31), whether the requested resource is released by the exclusive control function (col. 7, lines 32-30) and, when it is determined that the resource is released (col. 7, lines 37-40), outputs a request for acquisition of the requested resource to the exclusive control function (fig. 5B), and wherein the sub-task executing function sequentially executes sub-tasks other than the requesting sub-task (col. 3, lines 45-46).

11. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have combined the teaching of Schmidt and

Hammersly because Hammersly executing plurality of task/subtask sequentially and providing a resource acquisition management function for checking whether resource is available for acquired would improve the integrity of Schmidt's system by providing intra-process locking of a shared resource in a computer system (Hammersly, col. 2, lines 5-7).

12. As per claim 2, Schmidt teaches the invention substantially as claimed in claim 1 including sub-task executing function resumes the execution of the requesting sub-task at predetermined intervals (fig. 4B, item 36).

13. As per claim 14, it is a computer readable recording medium claim that corresponds to the method claim 1. Therefore, it is rejected for the same reason as claim 1 above.

14. Claims 3, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (U.S. Patent No. 6148325), in view of Hammersley (U.S. Patent No. 5392433) as claimed in claim 1 above, and further in view of Zalewski (U.S. Patent No. 6647508).

15. As per claim 3, Schmidt and Hammersly teach the invention substantially as claimed in claim 1. Schmidt and Hammersly did not specifically teach one of the main operating system program and the sub-operating system program provides a release notification function notifying the sub-task executing function

that the requested resource is released so that the sub-task executing function resumes the execution of the requesting sub-task in response to the notification.

16. However, Zalewski teaches one of the main operating system program and the sub-operating system program provides a release notification function notifying the sub-task executing function that the requested resource is released so that the sub-task executing function resumes the execution of the requesting sub-task in response to the notification (col. 21, lines 1-3).

17. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have combined the teaching of Schmidt, Hammersly, and Zalewski because Zalewski providing a notification function notifying when the resource available would improve the integrity of Schmidt and Hammersly's system by expanding the system work capacity to achieve better utilization of resources without stopping execution of application programs on the system (Zalewski, col. 1, lines 35-38).

18. As per claim 5, Zalewski disclosed the release notification function is executed under the control of the sub-operating system program (col. 21, lines 1-3). However, Zalewski did not specifically teach the notification function is periodically executed.

19. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that the notification function periodically executed because without its executed periodically no one will be able to realize that the resource is available and ready for use (Zalewski, col. 21, lines 5-6).

20. As per claim 7, Zalewski teaches the release notification function is executed based on a software interruption generated in response to a release by the exclusive control function of the resource (col. 22, lines 10-11).

Allowable Subject Matter

21. Claims 4, 6, and 8-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

22. The following is an examiner's statement of the reason for allowable subject matter:

The prior art of record failed to teach or suggest the sub-operating system program or main operating system program providing and using mapping table generating function to generate a resource mapping table showing correspondence between both resources such that notification and acquisition of resources by the operating systems programs occur or a task is halted and must wait on a corresponding virtual resource.

The prior art allows for resources to be acquired by operating systems but not in the manner disclosed above. Therefore, the claims have allowable subject matter.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Campbell (U.S. Patent No. 3665487)

Iizuka (U.S. Patent No. 5251317)

Jensen (U.S. Patent No. 6587937)

Bollella (U.S. Patent No. 6466962)

Zalewski (U.S. Patent No. 6260068)

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 7AM-4:30 PM, F 7AM-3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer N To
Examiner
Art Unit 2195

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER